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Posttraumatic Stress Disorder Symptomatology Among Partners of Men in Treatment for Relationship Abuse

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This longitudinal study examined posttraumatic stress disorder (PTSD) symptoms among current and former female partners ($N = 96$) of men participating in a group treatment program for partner abuse perpetrators. Female partner probable PTSD rates, obtained during time points corresponding with pretreatment, posttreatment, and 6-month follow-up for the male clients, were 52%, 34%, and 29%, respectively. Psychological abuse exposure was more strongly and uniquely associated with PTSD symptoms than was physical abuse exposure. Among psychological abuse ratings, denigration, restrictive engulfment, and dominance/intimidation behaviors evidenced the strongest associations with PTSD symptoms. Findings from this study suggest the association between psychological abuse and PTSD is complex and multidetermined.

Keywords: posttraumatic stress disorder, psychological aggression, domestic violence, relationship abuse, abuser intervention

Partner abuse victimization is an important form of traumatic stress. High rates of posttraumatic stress disorder (PTSD) have been found in battered women's shelter and counseling samples, with prevalence estimates ranging from 33% (Astin, Lawrence, & Foy, 1993) to 84% (Kemp, Rawlings, & Green, 1991). PTSD may also contribute to health problems for abused women (Browne, 1993; J. C. Campbell & Lewandowski, 1997; Koss, 1990; Stark & Flitcraft, 1996), as among other traumatized populations (Resnick, Acierno, & Kilpatrick, 1997; Taft, Stern, King, & King, 1999). Moreover, PTSD symptoms may deplete the psychological resources necessary to terminate an abusive relationship and live independently (Arias & Pape, 1999). Therefore, research on PTSD symptoms in abused women, including predictors of symptom exacerbation over time, is of considerable importance.

To date, relevant prediction studies have focused on the role of physical partner assault, which has been consistently associated with PTSD (Astin et al., 1993; Astin et al., 1995; Houskamp & Foy, 1991; Kemp et al., 1991; Kemp et al., 1995; Mertin & Mohr, 2000). Several aspects of physical abuse are related to PTSD risk. These include the frequency, severity, and recency of abuse; injuries sustained; duration of abuse exposure; and distress, fear, and degree of life threat experienced by the victim.

Unfortunately, psychological abuse has received little attention in studies of PTSD. This is not surprising, given that psychological abuse often does not fit neatly within the current diagnostic criteria for PTSD, which emphasize events involving actual or threatened death or injury (American Psychiatric Association, 1994; Kemp et al., 1995). Until recently, psychological abuse has received limited attention in studies of partner abuse (O'Leary, 1999) owing to its relative neglect by the criminal justice system, its uncertain role in injury control and public health, and the belief that physical abuse is more damaging to victims. Nevertheless, psychological abuse occurs frequently in physically abusive relationships, predicts the development of physical abuse over time, can involve potentially traumatic behaviors such as threats of homicide, and is reported by many battered women to be more emotionally damaging than physical abuse (Follingstad, Rutledge, Berg, Hause, & Polek, 1990; Murphy & Cascardi, 1999).

Recent studies indicate that psychological abuse may play an important role in the development and/or maintenance of PTSD symptoms in physically abused women. Arias and Pape (1999)

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found psychological abuse, and not physical abuse, to be associated with PTSD symptoms among battered women in shelter. The association between psychological abuse and PTSD symptoms remained significant even after controlling for level of physical abuse exposure. Similarly, in a sample of women from 23 shelters, Street and Arias (2001) found that psychological abuse predicted PTSD symptoms beyond the influence of physical abuse, whereas physical abuse did not uniquely predict PTSD symptoms. Likewise, among women seeking help from a court-based domestic violence intake center, Dutton, Goodman, and Bennett (1999) found psychological abuse to be more strongly associated with traumatic stress responses than physical abuse, injuries, and sexual abuse. Taken in sum, these studies suggest that psychological abuse, when compared with physical abuse, may be a stronger unique predictor of PTSD symptoms in battered women, perhaps because psychological abuse represents a direct attack on the emotional well-being of the victim (Arias & Pape, 1999).

Many questions remain unanswered regarding the association between psychological abuse and PTSD symptomatology. First, the relative impact of different types of psychological abuse has received little attention despite accumulating evidence for the multidimensional nature of this construct (Murphy & Hoover, 1999). Some studies have examined PTSD associations with the Domination/Isolation and Emotional/Verbal subscales of the Psychological Maltreatment of Women Inventory (PMWI; Tolman, 1989). Two studies (Arias & Pape, 1999; Dutton et al., 1999) reported no differences in the relations between these factors and PTSD, and one (Street & Arias, 2001) found the Emotional/Verbal subscale, and not the Domination/Isolation subscale, to predict PTSD beyond the influence of physical abuse. These conflicting findings are difficult to interpret because the two PMWI subscales group together behaviors that are thought to be functionally distinct (i.e., have unique consequences), and therefore may not fully capture the multifaceted psychological abuse construct (Murphy & Hoover, 1999).

The current study examined PTSD associations using a new measure of psychological abuse, the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999; Murphy, Hoover, & Taft, 1999). The MMEA subscales assess four conceptually and empirically distinct forms of psychological abuse that are based on differential functions that particular abusive behaviors are thought to serve. These subscales include Dominance/Intimidation, Denigration, Hostile Withdrawal, and Restrictive Engulfment (Murphy & Hoover, 1999). We hypothesized that dominance/intimidation behaviors (e.g., threats of violence, throwing or damaging objects) would exhibit the strongest association with PTSD, because these behaviors are topographically and functionally similar to physical assault and highly correlated with it (Murphy & Hoover, 1999; Murphy et al., 1999). Dominance/intimidation behaviors, which are often intended to elicit fear and compliance, may signal impending physical assault, may serve as traumatic reminders of prior assaults, and may be traumatic in their own right.

A second question is whether physical and psychological abuse jointly exert a greater negative effect than either stressor alone (Johnson & Ferraro, 2000; Murphy & Cascardi, 1999). Although psychological abuse is more frequent and pervasive than physical assault, it may be traumatic primarily in the context of physical abuse. This hypothesis was tested in the current study through the exploration of multiplicative (interaction) effects in the prediction of PTSD symptoms.

A third important question has to do with the generalization of past findings to diverse samples of abused partners. To date, most studies examining PTSD among battered women have used samples of women in shelter or counseling. Women in shelter tend to experience severe and frequent physical abuse (Saunders, 1994; Schlee, Heyman, & O'Leary, 1998), and they often have limited social support and economic resources, factors that may increase PTSD risk. Conversely, some abused women may avoid shelter and counseling services out of fear that they will be labeled as dysfunctional, blamed for the abuse, or encouraged to end the relationship. Avoidance, a hallmark feature of PTSD, may further reduce the likelihood of seeking services. In addition, some abused women may deny or minimize their abuse and related problems (Walker, 1991), remaining in the abusive relationship and prolonging traumatic exposure. Therefore, it is critical to develop a better understanding of PTSD symptomatology in samples known to have exposure to partner abuse but who have not been identified through shelter or victim counseling services. As a step in this direction, the current study examined the relationship partners of men enrolled in treatment for partner abuse perpetration.

A fourth important question has to do with change in PTSD symptoms over time. There is a notable dearth of studies examining the course of PTSD among women experiencing partner abuse (Saunders, 1994; Schlee et al., 1998). All known studies to date have assessed PTSD symptoms and abuse variables at a single point in time. This approach limits causal interpretations and the ability to study factors that influence the chronicity of PTSD symptoms. The current study assessed women's PTSD symptoms and relevant correlates at three time points during a period in which abuse exposure and contact with the abusive partner were likely to change: prior to the male client's entry into group treatment, at the end of the scheduled treatment interval (approximately 6 months after baseline), and at follow-up 6 months later. We tested the following hypotheses:

Hypothesis A: Levels of physical and psychological abuse exposure would correlate positively with pretreatment PTSD symptoms and predict PTSD symptoms over time.

Hypothesis B: Reductions in abuse would be associated with reductions in PTSD symptoms over time.

Hypothesis C: Psychological abuse variables would be stronger relative and unique predictors of PTSD symptoms than would physical abuse.

Hypothesis D: These two forms of abuse would jointly predict PTSD symptoms in a nonadditive fashion.

Hypothesis E: Dominance/intimidation is the form of psychological abuse that would exhibit the highest associations with PTSD symptoms and the highest joint impact with physical abuse on PTSD symptoms.

Hypothesis F: Higher victim–perpetrator contact would be associated with more abuse (Fals-Stewart, Lucente, & Birchler, 2002), and decreased contact over time would be associated with reductions in PTSD symptoms.

Method

Participants

Participants were 96 women identified as current or former partners of clients who enrolled in a treatment program for male abusers at a community-based agency between February 1999 and January 2001. The male client and/or relevant police reports provided victim contact information. Consent was obtained from the client to contact the victim by telephone. Confidential 1-hr telephone interviews were conducted with the women during the three assessment periods (client pretreatment, posttreatment, and follow-up). Research consent was secured from the abusive client, and the victim provided verbal assent for the use of data provided. Among those who completed the assessment, 1 female partner and 4 male clients refused research consent. The remaining 96 women who were successfully contacted were drawn from a pool of 124 relationship partners of abuser program enrollees, representing a 77% ascertainment rate for baseline partner assessments. No significant differences were found between participants and nonparticipants on any demographic or background variable. Of the 96 participants assessed at pretreatment, 88 (92%) were contacted at posttreatment, and 85 (89%) were contacted at follow-up. At pretreatment, 90% of the female participants reported at least one prior incident of male client-perpetrated physical abuse, and 98% reported at least one prior client act of psychological abuse. The posttreatment and follow-up assessments found client physical abuse rates of 25% and 14%, and psychological abuse rates of 84% and 75%, respectively.

Of the 96 female participants, 63% were Caucasian, 31% were African American, 2% were Asian, 1% were Hispanic, 1% were Native American, and 2% self-classified as "other" with respect to ethnicity. Average participant age was 34.0 years (SD = 8.6 years: range = 18–59 years). Average formal education was 13.1 years (SD = 2.9 years: range = 0–20 years). Regarding gross annual income, 17% reported no income, 8% earned \$1,000–\$10,000, 16% earned \$10,001–\$20,000, 17% earned \$20,001–\$30,000, 17% earned \$30,001–\$40,000, 7% earned \$40,001–\$50,000, 6% earned \$50,001–\$60,000, 5% earned \$60,001–\$80,000, and 7% earned more than \$80,000. At the time of this study, 24% of the participants were married and living with the male client, 34% were separated, 25% were never married, and 17% were divorced. During the 6 months prior to the baseline assessment, 57% reported daily or almost daily contact with the male client, 8% reported contact two to five times a week, 16% had contact one to two times a week, 8% one to three times a month, 8% less than once a month, and 2% reported no contact. At baseline, 43% of the women reporting having had a legal protection order against the male partner at some point within the previous 6 months.

All but 1 of the male clients in this study had a documented history of physically abusive behavior, as indicated by self-report, partner report, and/or arrest reports. The remaining clients reported extensive psychological abuse and concerns about potential escalation to physical abuse, with psychological abuse scores well above the 90th percentile of a normative sample. Among male clients, 75 (78%) were court-mandated to treatment. All completed the intake process and were assigned to a 16-week cognitive–behavioral group treatment program (Murphy & Scott, 1996). Groups met weekly for 2-hr sessions, conducted in a closed-group format by a male–female therapist team with 9–12 clients per group (M = 10.8). Enhanced motivation to change, cognitive restructuring, and behavioral skill acquisition were considered to be the active ingredients of change. Some of these individuals participated in a controlled study of motivational interviewing as a pregroup preparation strategy (Musser, 2002), and all participated in research on treatment adherence and process factors influencing partner abuse outcomes (Taft, Murphy, King, Musser, & Dedeyn, 2003).

Measures

Physical abuse was measured by using the 9-item Physical Assault subscale of the Conflict Tactics Scale (CTS; Straus, 1979). The reliability and validity of the instrument have been well documented (Straus, 1979, 1990), and prior research has demonstrated high levels of consistency between telephone administrations of the CTS and in-person administrations (Lawrence, Heyman, & O'Leary, 1995). Respondents reported the frequency of each behavior during the previous 6 months on a scale ranging from 0 (*never*) to 6 (*more than 20 times*). At baseline, participants also indicated whether each abusive behavior had ever occurred in the relationship, even if it was not reported for the prior 6-month period. From these ratings, Physical Assault subscale scores were computed by summing the number of positively endorsed items, with total scores ranging from 0 to 9. Baseline scores reflected lifetime ratings of abuse; that is, whether the male client had ever engaged in each specific act of physical abuse. Scores derived from this computation method, known as *variety scores*, have desirable psychometric properties and have been advocated for measuring physical abuse (Moffitt et al., 1997). This approach reduces skewness caused by a small number of high-rate offenders, gives equal weight to each abusive behavior, and is most defensible with respect to memory limitations regarding behavior frequencies. Variety scores were log-transformed to further reduce skew and kurtosis. Only victim reports of abuse were analyzed as such ratings are less affected by socially desirable responding than abuser self-reports (Arias & Beach, 1987). Across the three assessment points, the internal consistency reliability coefficients for the CTS ranged from .71 to .80.

Psychological abuse was measured by using the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999; Murphy et al., 1999). The MMEA was developed through the use of a strategy governed by classical test-theory based methodologies for rationally constructed, internally consistent scales (Nunnally, 1978). The measure consists of 28 items and is administered by using the same response format as the CTS, with item frequency selections ranging from 0 (*never*) to 6 (*more than 20 times*) in the prior 6-month interval. The measure consists of four 7-item subscales: Restrictive Engulfment (e.g., *tried to stop you from seeing certain friends or family members*), Hostile Withdrawal (e.g., *acted cold or distant when angry*), Denigration (e.g., *called you a loser, failure, or similar term*), and Dominance/Intimidation (e.g., *threw, smashed, hit, or kicked something in front of you*). Recent confirmatory factor analyses and validation studies among samples of undergraduates have upheld the four-factor conceptualization of psychological abuse as assessed by the MMEA and an earlier expanded item set used in the construction of this measure (Murphy & Hoover, 1999; Murphy et al., 1999). In addition, the MMEA subscales have been found to display differential associations with variables such as physical violence, attachment patterns, and interpersonal problems, supporting their construct validity as distinct but correlated forms of abuse. In this study, as with the CTS, victim MMEA reports were used, lifetime ratings were used at baseline, variety scores were computed, and scores were log-transformed. In addition to subscale scores, total MMEA scores were derived to assess the overall perpetration of psychological abuse. The internal consistency reliability coefficients for the four MMEA subscales across the three assessment points ranged from .79 to .91, with total score internal consistencies ranging from .92 to .93.

PTSD symptomatology was assessed by using the nine symptoms from the Diagnostic Interview Schedule (DIS; Robins, Helzer, Ratcliff, & Seyfried, 1982), a standardized interview based on *DSM–III* (American Psychiatric Association, 1980) criteria. The DIS was originally developed to assess psychological disorders in large epidemiological studies and may be validly administered via telephone, with studies demonstrating similar psychometric properties in comparisons of face-to-face and telephone administrations (e.g., Wells, Burnam, Leake, & Robins, 1988). Interviewers administered this measure to participants at each assessment time point. The directions asked: *How often did you experience any of the following problems as a result of (partner's name)'s abuse in the past 6 months?* Response options included *never* (coded 0), *occasionally* (coded 1), and *frequently* (coded 2). Frequency scores of PTSD symptoms were calculated by summing the items, with possible scores ranging from 0 to 18. These

scores were log-transformed to reduce skewness and kurtosis. Dichotomous "probable PTSD" scores were obtained according to the DIS and *DSM–III* diagnostic criteria, which require endorsement of one Criterion B symptom (Items 1 and 2), one Criterion C symptom (Items 3 and 4), and two Criterion D symptoms (Items 5 through 9). Watson and colleagues (1991) found the PTSD module of the DIS to demonstrate adequate reliability, with a test–retest coefficient of .95 for 1 week, and an interrater reliability kappa of .61. These researchers also found evidence of convergent validity in a strong correlation with the Posttraumatic Stress Disorder Interview. Breslau and Davis (1987) demonstrated substantial agreement between PTSD diagnoses obtained through psychiatric interviews and lay interviews that used the DIS. Saunders (1994) reported PTSD rates of 60% among battered women in shelter using the DIS, and 62% among those seeking help in nonshelter programs. The internal consistency reliability coefficients for this measure ranged from .89 to .91 across the three assessment points in the current study.

Contact with the abusive partner was assessed by victim interview at each assessment. Participants were asked: *For the last 6 months, how often have you had contact with your partner for any reason, including talking on the phone, meeting in person, running into one another, or seeing one another for any reason?* Responses were rated on a 6-point scale, ranging from 1 (*daily or almost every day*) to 6 (*never*) and were recoded to estimate the actual number of days of contact, with possible scores ranging from 0 to 180.

Analyses

First, descriptive statistics were examined, including percentage endorsement of individual DIS items and probable PTSD rates. Next, intercorrelations among all of the pretreatment study variables were calculated. Hypotheses regarding the unique and joint effects of physical and psychological abuse on PTSD symptoms were tested together by using two sets of multiple regressions, one set examining the prediction of posttreatment PTSD symptoms from pretreatment abuse measures and the other set examining the prediction of follow-up PTSD symptoms from posttreatment abuse measures. For regressions examining the prediction of posttreatment PTSD symptoms, physical abuse and the MMEA measure of interest were entered into the first block, testing their unique effects. A physical abuse by MMEA product term was entered in the second block to test their joint effects. The same approach was used in the prediction of follow-up PTSD symptoms, while controlling for the pretreatment abuse measure of interest entered in the first block of each regression. Predictor variables were centered prior to the computation of interaction terms.

Though early opponents of the use of change scores (e.g., Cronbach & Furby, 1970; Lord & Novick, 1968) argued that they were inherently unreliable, recent work has challenged these notions and provided support for their use (Collins & Cliff, 1990; Nesselroade & Cable, 1974; see also Williams & Zimmerman, 1996, for a review). We tested the hypothesis that longitudinal changes in the predictor variables would be associated with changes in PTSD symptoms by using raw change scores on these variables from pretreatment to posttreatment and from posttreatment to follow-up. Change scores were calculated by subtracting the posttreatment variables of interest from the pretreatment ratings of these variables and follow-up ratings from posttreatment ratings. Abuse and PTSD change scores were log-transformed to reduce skewness and kurtosis. Bivariate correlations between the predictor variable and PTSD symptom change scores were then computed.

Results

Table 1 presents descriptive statistics for the study variables. Table 2 displays rates of symptom endorsement and probable PTSD. Rates of probable PTSD at pretreatment, posttreatment, and follow-up were 52%, 35%, and 29%, respectively. Reductions in probable PTSD from pretreatment to posttreatment, $\chi^2(1, N = 83) = 6.50$, $p < .05$, and pretreatment to follow-up, $\chi^2(1, N = 81) = 9.63$, $p < .01$, were statistically significant. Item-level data indicate that respondents suffered from the range of potential PTSD symptoms. The most frequently endorsed item at each assessment reflected intrusive memories (*remembering the abuse even when you did not want to*), a hallmark feature of PTSD. Notably, endorsement rates for this symptom decreased only slightly from pretreatment (70%) to follow-up (60%). Over one half of the study participants reported a number of other PTSD symptoms at pretreatment, including *loss of interest in things you used to enjoy* (57%), *feeling jumpy or easily startled* (64%), *forgetfulness or trouble concentrating* (54%), and *avoidance of situations or activities that reminded you of the abuse* (52%).

Table 1
Descriptive Statistics for Study Variables

Variable	*M*	*SD*	Range
Pretreatment			
Physical abuse	3.67	2.38	0–9
Total psychological abuse	17.39	7.33	0–28
Restrictive engulfment	4.25	2.53	0–7
Denigration	3.52	2.40	0–7
Hostile withdrawal	5.14	2.17	0–7
Dominance/intimidation	4.48	2.29	0–7
Victim contact	118.00	75.37	0–180
PTSD symptoms	6.92	5.43	0–18
Posttreatment			
Physical abuse	0.55	1.23	0–6
Total psychological abuse	8.88	7.09	0–25
Restrictive engulfment	2.30	2.31	0–7
Denigration	1.81	2.19	0–7
Hostile withdrawal	3.18	2.62	0–7
Dominance/intimidation	1.59	1.90	0–7
PTSD symptoms	5.07	5.08	0–18
Follow-up			
Physical abuse	0.29	0.87	0–5
Total psychological abuse	8.09	7.20	0–24
Restrictive engulfment	1.94	2.05	0–7
Denigration	1.80	2.15	0–7
Hostile withdrawal	3.14	2.82	0–7
Dominance/intimidation	1.21	1.70	0–7
PTSD symptoms	4.43	4.71	0–18

Note. PTSD = posttraumatic stress disorder.

Table 3 displays the intercorrelations among all of the pretreatment variables of interest. As predicted, all physical and psychological abuse scores were associated with PTSD symptoms and probable PTSD scores in the expected direction. When entered into a multiple regression, PTSD symptoms remained significantly associated with both MMEA total score, $B(90) = .64$, $p < .001$, and physical abuse, $B(90) = .34$, $p < .05$. The effect size for MMEA total score ($pr = .42$; 90% confidence interval [CI] = .26–.58) was considerably larger than the effect size for physical abuse ($pr = .23$; 90% CI = .06–.40). Regarding the intercorrelations among the predictor variables, relationships were found between all MMEA subscales and CTS physical abuse ratings. The

Table 2
Percentage Endorsing DIS PTSD Symptoms

DIS symptom	Pretreatment	Posttreatment	Follow-up
Dreams or nightmares about the abuse	36.6	30.2	28.6
Remembering the abuse even when you did not want to	69.9	65.1	59.5
Loss in your ability to care for other people	43.0	29.1	27.4
Loss of interest in things you used to enjoy	57.0	41.9	34.5
Feeling jumpy or easily startled	64.1	44.2	41.7
Trouble sleeping	46.2	36.0	33.3
Feeling ashamed of being alive	23.7	16.3	9.5
Forgetfulness or trouble concentrating	53.8	43.0	35.7
Avoidance of situations or activities that reminded you of the abuse	51.6	47.7	45.2
Probable PTSD	51.6	34.9	28.6

Note. Items were considered endorsed if respondents indicated that they had experienced the symptom occasionally or frequently. DIS = Diagnostic Interview Schedule; PTSD = posttraumatic stress disorder.

strongest MMEA subscale–physical abuse correlation was found between Dominance/Intimidation and physical abuse, and this association was significantly stronger than the next highest association, $t(92) = 2.01$, $p < .05$ (Steiger, 1980). Contrary to expectations, victim contact was not significantly associated with physical abuse. Unexpectedly, a significant negative association was found between victim contact and the Denigration MMEA subscale.

Results from the multiple regression analyses examining the unique associations between the pretreatment abuse variables and posttreatment PTSD symptoms and the interactive effects of physical abuse and the psychological abuse variables of interest are displayed in Table 4. When entered together into a multiple regression equation, overall psychological abuse and not physical abuse remained a significant predictor of PTSD symptoms, though the effect of physical abuse approached significance. Similarly, Denigration was a unique predictor of PTSD symptoms when considered in light of physical abuse, and the effect of physical abuse approached significance. Both physical abuse and Restrictive Engulfment were significant unique predictors of PTSD symptoms, with the MMEA subscale evidencing a slightly higher effect size. The Hostile Withdrawal and Dominance/Intimidation subscales were not associated with PTSD symptoms when each was entered separately with physical abuse, and physical abuse remained a significant unique predictor in both of these regressions. Contrary to expectations, no interaction effects were found between physical abuse and any of the psychological abuse measures in predicting PTSD symptoms.

Table 5 displays results from the multiple regression analyses examining the main and interaction effects of the posttreatment physical and psychological abuse measures on follow-up PTSD symptoms, controlling for the effects of pretreatment abuse. In each regression, psychological abuse remained a significant predictor of PTSD symptoms when considered in light of physical abuse, whereas physical abuse did not uniquely predict PTSD symptoms. For overall psychological abuse, Restrictive Engulfment, Denigration, and Dominance/Intimidation, effect sizes fell within the medium range in magnitude (Cohen, 1988). Hostile Withdrawal evidenced a slightly lower effect size. Physical abuse and the psychological abuse measures did not jointly predict PTSD symptoms, again contrary to hypotheses.

Associations between abuse and PTSD symptom change scores are displayed in Table 6. These analyses found reductions in overall psychological abuse as well as reductions in Denigration, Hostile Withdrawal, and Dominance/Intimidation behaviors to be significantly associated with reductions in PTSD symptoms from both pre- to post- and post- to follow-up assessments. In addition, Restrictive Engulfment change scores were associated with PTSD

Table 3
Intercorrelations Among Study Variables (Pretreatment)

Variable	1	2	3	4	5	6	7	8	9
1. Physical abuse	—								
2. Total psychological abuse	.48**	—							
3. Restrictive engulfment	.40**	.77**	—						
4. Denigration	.42**	.79**	.65**	—					
5. Hostile withdrawal	.15	.73**	.32**	.48**	—				
6. Dominance/intimidation	.62**	.83**	.62**	.63**	.45**	—			
7. Victim contact	.02	−.16	−.09	−.25*	−.14	−.13	—		
8. PTSD symptoms	.43**	.53**	.56**	.54**	.27**	.54**	−.13	—	
9. Probable PTSD	.37[a]**	.37[a]**	.47[a]**	.39[a]**	.15[a]	.37[a]**	−.02[a]	.79[a]**	—

Note. Physical abuse, Multidimensional Measure of Emotional Abuse scores, and posttraumatic stress disorder (PTSD) symptom scores were log-transformed to normalize the distributions.
[a] Point-biserial correlation.
* $p < .05$. ** $p < .01$.

Table 4
Multiple Regression Analyses: Pretreatment Predictors of Posttreatment PTSD Symptoms

Variable	PTSD symptoms			
	B	*t*	*pr*	*p*
Block 1				
Physical abuse	.32	1.87	.20	.07
Total psychological abuse	.39	2.37	.25	.02
Block 2				
Physical Abuse × Total Psychological Abuse	−.03	−0.15	−.02	.88
Block 1				
Physical abuse	.34	2.11	.23	.04
Restrictive engulfment	.37	2.58	.27	.01
Block 2				
Physical Abuse × Restrictive Engulfment	−.07	−0.33	−.04	.74
Block 1				
Physical abuse	.29	1.83	.20	.07
Denigration	.46	3.17	.33	.00
Block 2				
Physical Abuse × Denigration	−.30	−1.38	−.15	.17
Block 1				
Physical abuse	.48	3.01	.32	.00
Hostile withdrawal	.16	0.82	.09	.42
Block 2				
Physical Abuse × Hostile Withdrawal	−.36	−1.31	−.14	.19
Block 1				
Physical abuse	.41	2.11	.23	.04
Dominance/intimidation	.16	0.74	.08	.46
Block 2				
Physical Abuse × Dominance/Intimidation	.09	0.34	.04	.74

Note. Physical abuse, Multidimensional Measure of Emotional Abuse scores, and posttraumatic stress disorder (PTSD) symptom scores were log-transformed to normalize the distribution.

change scores from post- to follow-up assessments. In general, and as hypothesized, psychological abuse change scores were more strongly associated with PTSD symptom change scores than were physical abuse change scores, though the association between post- to follow-up physical abuse and PTSD symptom change scores approached significance ($p = .08$). Surprisingly, change in victim contact levels from pre- to post- assessments predicted PTSD symptom change scores in the negative direction, such that greater reduction in victim contact was associated with an increase in PTSD symptoms.

Discussion

PTSD is a significant problem among abused women whose partners are in abuser counseling. In fact, probable PTSD rates were comparable to rates found in shelter samples (Astin et al., 1993; Saunders, 1994). Over half of the women in this study had probable PTSD at the baseline assessment, almost 30% had probable PTSD 1 yr later, and many more were suffering from PTSD symptoms but did not meet the criteria for a diagnosis. These rates are notable considering that nonshelter samples typically report less severe physical abuse than do shelter samples (Saunders, 1994; Schlee et al., 1998). Approximately 10% of the women in this study reported that they were not the victims of prior physical abuse by the male client at baseline[1], although physical abuse was present in the male partner's self-report or arrest reports for all but one case. Furthermore, the physical abuse recidivism rate of 14% during the 6-month follow-up was low relative to most treatment studies of this population (e.g., Gondolf, 1997; Saunders, 1996).

The relative roles of physical and psychological abuse may help explain the high probable PTSD rates in this sample. As others have found (Arias & Pape, 1999; Dutton et al., 1999; Street & Arias, 2001), psychological abuse was a stronger unique correlate of PTSD symptoms than was physical abuse at baseline. Furthermore, in prospective analyses, psychological abuse uniquely predicted PTSD symptoms when entered together with physical abuse, and reductions in overall psychological abuse were associated with reductions in PTSD symptoms over time. Although many abuser counseling programs address relationship and communication skills, the reduction and cessation of psychologically abusive behaviors may receive limited direct attention, and psychological abuse often remains elevated after treatment (Gondolf, 1997; Hamberger & Hastings, 1988). The current findings suggest that psychological abuse warrants greater attention in abuser treatment programs, given its strong and unique associations with victim PTSD symptoms.

It was hypothesized that the Dominance/Intimidation scale would be the strongest psychological abuse predictor of PTSD symptoms because of its similarities to traumatic violence and high

[1] No significant differences in demographic and background characteristics emerged between study participants who reported prior physical abuse and those who did not report prior physical abuse.

Table 5
Multiple Regression Analyses: Posttreatment Predictors of Follow-up PTSD Symptoms

Variable	PTSD symptoms			
	B	*t*	*pr*	*p*
Block 2				
Physical abuse	−.16	−0.72	−.08	.47
Total psychological abuse	.44	4.01	.41	.00
Block 3				
Physical Abuse × Total Psychological Abuse	−.15	−0.43	−.05	.67
Block 2				
Physical abuse	−.01	−0.05	−.01	.96
Restrictive engulfment	.51	3.17	.34	.00
Block 3				
Physical Abuse × Restrictive Engulfment	−.36	−1.23	−.14	.22
Block 2				
Physical abuse	−.14	−0.67	−.08	.51
Denigration	.60	4.16	.43	.00
Block 3				
Physical Abuse × Denigration	−.40	−1.53	−.17	.13
Block 2				
Physical abuse	−.03	−0.13	−.02	.89
Hostile withdrawal	.36	2.47	.27	.02
Block 3				
Physical Abuse × Hostile Withdrawal	−.34	−1.00	−.11	.32
Block 2				
Physical abuse	−.44	−1.64	−.18	.11
Dominance/intimidation	.67	3.66	.38	.00
Block 3				
Physical Abuse × Dominance/Intimidation	.30	0.53	.06	.60

Note. Physical abuse, Multidimensional Measure of Emotional Abuse scores, and posttraumatic stress disorder (PTSD) symptom scores were log-transformed to normalize the distribution. All analyses controlled for pretreatment levels of the abuse variables of interest (Block 1).

correlation with physical assault. Although this scale was more strongly associated with physical assault than the other MMEA scales and was associated with PTSD symptoms in most analyses, it did not evidence better prediction of PTSD than did the other forms of psychological abuse. Psychologically abusive behaviors may impact PTSD symptoms by serving as traumatic reminders of physical abuse or signaling impending assault (Follingstad, Brennan, Hause, Polek, & Rutledge, 1991), yet other mechanisms may also account for the psychological abuse–PTSD relationship. The lack of significant interactions between each of the MMEA scales and physical abuse in predicting PTSD symptoms further suggests that physical and psychological abuse may exert independent influences on stress and trauma reactions.

Although all four forms of psychological abuse were associated with PTSD symptoms at baseline and in most longitudinal analyses, denigration was the only one that significantly correlated with PTSD symptoms across all analyses. This scale appeared to be a particularly strong predictor of PTSD symptoms in prospective analyses. Some prior work has found battered women to report ridiculing behavior as the most negative (Follingstad et al., 1990) and severe (Sackett & Saunders, 1999) form of emotional abuse. Such behaviors may cause or intensify symptoms of PTSD through their damaging impact on the victim's sense of self-worth and well-being.

Restrictive engulfment behaviors also consistently predicted PTSD symptoms. These behaviors, which are intended to monitor and isolate the partner, may exacerbate PTSD symptoms by limiting the victim's access to important social supports and tangible resources, increasing feelings of helplessness and powerlessness. Among women in domestic violence shelters, perceived social support and powerlessness are important longitudinal predictors of psychological adjustment (R. Campbell, Sullivan, & Davidson, 1995). Other data further indicate a negative association between social support and PTSD in battered women (Kemp et al., 1995).

The obtained results should not be interpreted as evidence that physical abuse is less damaging or deserving of less clinical and research attention than is psychological abuse. Victims of physical abuse suffer from a multitude of physical and mental health problems (J. C. Campbell & Lewandowski, 1997; Goodman, Koss, Fitzgerald, Russo, & Keita, 1993). In addition, as in prior studies (Astin et al., 1993, 1995; Dutton et al., 1999; Houskamp & Foy, 1991; Kemp et al., 1991, 1995; Mertin & Mohr, 2000), physical abuse exposure was associated with PTSD symptoms at baseline, even after controlling for psychological abuse. Physical abuse also prospectively predicted PTSD symptoms in some analyses independently of psychological abuse variables, and reductions in physical abuse from posttreatment to follow-up were associated with concomitant reductions in PTSD symptoms. It is likely that the lower frequency and dispersion of physically abusive behaviors relative to psychological abuse contributes to its lower associations with PTSD symptoms (Arias & Pape, 1999). As compared with physical abuse, the reporting of psychological abuse may also be more subjective, and therefore more potentially affected by PTSD symptoms, contributing to higher associations between

Table 6
Associations Among Abuse Change Scores and PTSD Change Scores

Variable	PTSD change score
Pretreatment to posttreatment	
Physical abuse	.09
Total psychological abuse	.32**
Restrictive engulfment	.21
Denigration	.26*
Hostile withdrawal	.27*
Dominance/intimidation	.26*
Victim contact	−.33**
Posttreatment to follow-up	
Physical abuse	.20
Total psychological abuse	.41**
Restrictive engulfment	.46**
Denigration	.22*
Hostile withdrawal	.30**
Dominance/intimidation	.25*
Victim contact	−.05

Note. Physical abuse change scores, Multidimensional Measure of Emotional Abuse change scores, and posttraumatic stress disorder (PTSD) symptom change scores were log-transformed to normalize the distribution.
* $p < .05$. ** $p < .01$.

these factors. Other factors, such as perceptions of the abuser's participation in treatment, may also have produced reporting bias.

Hypotheses regarding victim–perpetrator contact were not supported. In contrast to a recent study (Fals-Stewart et al., 2002), greater contact was not associated with more abuse at baseline. In addition, change in contact from pretreatment to posttreatment was inversely correlated with change in PTSD symptoms. This association was in the opposite direction to the hypothesis and should be interpreted with caution. One possible explanation is that those at higher objective risk for abuse and higher levels of PTSD may have been more likely to reduce their contact with the abuser. It is also possible that increases in contact lead to reductions in PTSD symptoms by increasing perceptions of predictability and certainty regarding risk for future abuse. Posttrauma reactions may intensify after separation or reduced contact as a result of heightened recollection and reexperiencing associated with relationship loss. Conversely, reduced contact may have altered appraisals or reporting of traumatic experiences as a function of discounting a failing or lost relationship or more accurately appraising a traumatizing one. Further research is needed to replicate and clarify these associations and to explore other relationship factors that may influence the course and expression of PTSD symptoms among those exposed to partner abuse.

Important generalization issues bear note. Although the female participants were not selected on the basis of seeking clinical services and none were in shelter, generalization of findings to nontreatment seeking victims of partner abuse is limited by a lack of information on participants' treatment history. Further, because most of the men were court-ordered to treatment, many of their partners had engaged in proactive behaviors such as calling the police or obtaining protective orders. Thus, the results may not generalize to abused partners who are unwilling or unable to involve legal authorities in their predicament. Because of the lack of community samples in this area of investigation, differences between the current sample and the larger population of abused women remain difficult to estimate.

Future studies should use a more comprehensive PTSD battery and a multimodal assessment approach (Keane, Weathers, & Foa, 2000). The DIS PTSD measure used here was based on outdated (*DSM–III*) criteria, although the basic collection of key symptoms has remained intact across diagnostic criteria revisions. The only DIS item that does not apply to the *DSM–IV*, (i.e., *feeling ashamed of being alive*), refers to survival guilt and was the least frequently endorsed PTSD symptom in this study. It is also noteworthy that subsequent versions of the DIS have obtained higher PTSD rates in epidemiological studies than did the original version (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Because this has been attributed to the broadening of the PTSD stressor criteria (Breslau et al., 1998), and relationship abuse was the index trauma for all study participants, the likelihood that probable PTSD rates were underestimated is lessened. Future research should assess victims' prior trauma histories and the time of onset of their PTSD symptoms to further elucidate the relationship between partner abuse and PTSD. Investigations should also examine PTSD in light of other common emotional reactions to partner abuse, including other anxiety disorders, dissociative symptoms, depression, drug and alcohol abuse, and sexual dysfunction (Gleason, 1993; Herman, 1992; Walker, 1991).

The current findings extend prior research showing high rates of PTSD symptoms among battered women in shelter and counseling programs to a longitudinal sample of women whose partners were in counseling for partner abuse perpetration. Rates of probable PTSD declined significantly over time, and reduced symptom levels were associated with reductions in exposure to psychological and physical abuse. In general, physical and psychological abuse had additive, but not multiplicative, effects in the prediction of PTSD symptoms. No specific form of psychological abuse emerged as the predominant predictor of PTSD symptoms, indicating that multiple processes may account for the strong and unique association between psychological abuse exposure and traumatic reactions among women exposed to physical partner assault.

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